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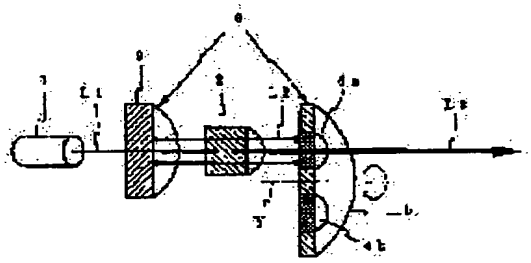
(54) SOLID-STATE LASER DEVICE

(57)Abstract:
PROBLEM TO BE SOLVED: To provide a multicolored solid-state laser device, which is capable of outputting laser rays of various wavelengths by easily converting them from one wavelength to another, even though it is compact and simple in structure.
SOLUTION: A solid-state laser device is made to serve as a longer wavelength conversion laser device and equipped with an exciting light source 1, a laser active medium 2 which is formed of rare earth-containing chloride and emits lights of various wavelengths of a plurality of peak values by converting L1, emitted from the exciting light source 1 longer in length, and an optical resonator device 6. The optical resonator device 6 is equipped with two or more pairs of reflectors 3, 4a and 3, 4b which sandwich the laser active medium 2 between them on an optical path where light emitted from the laser active medium 2 oscillates laser rays. One of the pairs is disposed in such a manner so that is can be freely replaced with the other pair on an optical path where laser rays can be oscillated. Each pair of the reflectors selectively oscillates only the laser rays of its intrinsic peak wavelength.



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* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1] The laser activity medium which consists of a rare earth content chloride which carries out wavelength upper part conversion of the light from the excitation light source and this excitation light source in wavelength upper part conversion laser equipment, and may be emitted as two or more peak wave Nagamitsu, Have optical-resonator equipment and this optical-resonator equipment is equipped with two or more sets of groups of the reflector which sandwiches a laser activity medium by one pair on the optical path to which laser oscillation of the light emitted from a laser activity medium can be carried out. the -- two or more -- a set -- inside -- one -- a set -- laser oscillation -- carrying out -- making -- obtaining -- an optical path -- a top -- others -- a group -- exchange -- free -- laser -- activity -- a medium -- inserting -- arranging -- having -- structure -- having -- each class of a reflector -- It is that to which laser oscillation only of one peak wave Nagamitsu is selectively carried out from from among said two or more peak wave Nagamitsu. Specific peak wave Nagamitsu to whom each class of a reflector carries out laser oscillation is solid-state-laser equipment characterized by being mutually different wavelength for every group of a reflector, and two or more different peak wave Nagamitsu in one laser equipment being those by which laser oscillation is carried out selectively.
[Claim 2] The laser activity medium which consists of a rare earth content chloride which carries out wavelength upper part conversion of the light from the excitation light source and this excitation light source in wavelength upper part conversion laser equipment, and may be emitted as two or more peak wave Nagamitsu, The inside of one pair of reflectors which sandwich a laser activity medium on the optical path to which laser oscillation of the light which has optical-resonator equipment, and by which this optical-resonator equipment is emitted from a laser activity medium can be carried out, By sharing one reflector as one fixed reflector, and enabling two or more reflectors and exchange of the reflector of another side It is that in which the group of two or more reflectors is formed. The reflector of these another side It is what reflects only one peak wave Nagamitsu selectively from from among said two or more peak wave Nagamitsu. Peak wave Nagamitsu whom the reflector reflects in each is mutually different wavelength for every reflector, and one reflector with which said one side was fixed Solid-state-laser equipment characterized by two or more peak wave Nagamitsu who reflects all peak wave Nagamitsu that two or more reflectors of said another side reflect, and is different in one laser equipment being those by which laser oscillation is carried out selectively.
[Claim 3] Solid-state-laser equipment according to claim 1 or 2 the reflector on an optical path in the above-mentioned optical-resonator equipment and other reflectors of whose are the structures where one reflector moves at a time onto an optical path, and it is exchanged when two or more reflectors move in revolution centering on one revolving shaft with which the structure where it was exchanged free was placed out of the optical path.
[Claim 4] Solid-state-laser equipment according to claim 3 whose structure where two or more reflectors move in revolution, and it is exchanged centering on one revolving shaft placed out of the optical path is the structure of having the rotor plate which rotates a revolving shaft parallel to an optical path as a core, and two or more reflectors arranged on the same periphery on this rotor plate.
[Claim 5] Solid-state-laser equipment according to claim 1 or 2 the reflector on an optical path in the above-mentioned optical-resonator equipment and other reflectors of whose are the structures where one reflector moves at a time onto an optical path, and it is exchanged when two or more reflectors are arranged on the same straight line and the structure where it is exchanged free moves linearly.
[Claim 6] claim 1 whose light by which laser oscillation is carried out is the light of red and the wavelength of a green and blue field thru/or 5 -- solid-state-laser equipment given in either.
[Claim 7] claim 1 whose wavelength of the light from the excitation light source the rare earth content chloride of a laser activity medium is Er content chloride crystal or Er content chloride glass, and is one or more kinds of wavelengt chosen from 790nm - 840nm, 965nm - 985nm, or 1500nm - 1550nm thru/or 6 -- solid-state-laser equipment given in either.

Claim 8] Er content chloride crystal is ErBa2 Cl7. Solid-state-laser equipment according to claim 7 whose wavelength f the light from the excitation light source it is a crystal and is 965nm - 985nm.
Claim 9] claim 1 characterized by a reflector having a reflection factor adjusted so that output reinforcement of the aser beam in each peak wave Nagamitsu can be made into homogeneity thru/or 8 -- solid-state-laser equipment given in ither.

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NOTICES *

)ETAILED DESCRIPTION

Detailed Description of the Invention]
0001]
The technical field to which invention belongs] This invention relates to the equipment which can switch and output a letailed laser beam multicolor with one equipment about wavelength upper part conversion laser equipment among olid-state-laser equipment.
0002]
Description of the Prior Art] In recent years, the red in a light field, green, and ultraviolet radiation and various short vavelength laser are further called for strongly because of various objects from blue by the demand in fields, such as a lemand of multiple-color-izing in the display of information, a display, etc. or photochemical reaction, and medical :are.
0003] Gas laser, such as a thing using the SHG light of various solid state laser (Nd:YAG etc.), and helium-Ne laser, Ar laser, is actually one of those which generate red and a green and blue laser beam. Moreover, the rise conversion aser (what generates a visible laser beam from an infrared excitation light by multistage story excitation of the rare :arth ion contained in the laser activity medium) which is one gestalt of solid-state-laser equipment also attracts ıttention as a technique in which the various visible laser light of from red until blue can be oscillated by exciting by the :heap semiconductor laser which emits the laser beam of an infrared region.
0004]
Problem(s) to be Solved by the Invention] However, each of these laser equipments was monochrome, and when the aser beam of two or more sorts of wavelength was required, only the number of the classes of required wavelength :ould not but prepare these laser equipments independently, or they could not but prepare like OPO the large-sized and :xpensive equipment which can carry out outgoing radiation of the laser beam of two or more kinds of wavelength by)ne set.
0005] Though it is compact and easy structure, the object of this invention is one equipment and is offering the nulticolor solid-state-laser equipment which the laser beam of two or more sorts of wavelength is switched easily, and :an output it.
0006]
Means for Solving the Problem] The solid-state-laser equipment of this invention has the following descriptions.
1) The laser activity medium which consists of a rare earth content chloride which carries out wavelength upper part :onversion of the light from the excitation light source and this excitation light source in wavelength upper part :onversion laser equipment, and may be emitted as two or more peak wave Nagamitsu, Have optical-resonator :quipment and this optical-resonator equipment is equipped with two or more sets of groups of the reflector which :andwiches a laser activity medium by one pair on the optical path to which laser oscillation of the light emitted from a aser activity medium can be carried out. the -- two or more -- a set -- inside -- one -- a set -- laser oscillation -- carrying)ut -- making -- obtaining -- an optical path -- a top -- others -- a group -- exchange -- free -- laser -- activity -- a nedium -- inserting -- arranging -- having -- structure -- having -- each class of a reflector -- It is that to which laser)scillation only of one peak wave Nagamitsu is selectively carried out from from among said two or more peak wave Nagamitsu. Specific peak wave Nagamitsu to whom each class of a reflector carries out laser oscillation is solid-state-laser equipment characterized by being mutually different wavelength for every group of a reflector, and two or more different peak wave Nagamitsu in one laser equipment being those by which laser oscillation is carried out selectively.
0007] (2) The laser activity medium which consists of a rare earth content chloride which carries out wavelength uppe part conversion of the light from the excitation light source and this excitation light source in wavelength upper part :onversion laser equipment, and may be emitted as two or more peak wave Nagamitsu, The inside of one pair of

eflectors which sandwich a laser activity medium on the optical path to which laser oscillation of the light which has optical-resonator equipment, and by which this optical-resonator equipment is emitted from a laser activity medium can e carried out, By sharing one reflector as one fixed reflector, and enabling two or more reflectors and exchange of the eflector of another side It is that in which the group of two or more reflectors is formed. The reflector of these another ide It is what reflects only one peak wave Nagamitsu selectively from from among said two or more peak wave Nagamitsu. Peak wave Nagamitsu whom the reflector reflects in each is mutually different wavelength for every eflector, and one reflector with which said one side was fixed Solid-state-laser equipment characterized by two or more eak wave Nagamitsu who reflects all peak wave Nagamitsu that two or more reflectors of said another side reflect, and s different in one laser equipment being those by which laser oscillation is carried out selectively.

0008] (3) Solid-state-laser equipment the above (1) the reflector on an optical path in the above-mentioned optical-esonator equipment and other reflectors of whose are the structures where one reflector moves at a time onto an optical ath, and it is exchanged when two or more reflectors move in revolution centering on one revolving shaft with which he structure where it was exchanged free was placed out of the optical path, or given in (2).

0009] (4) an optical path -- outside -- placing -- having had -- one -- a ** -- a revolving shaft -- a core -- ** -- carrying ut -- plurality -- a reflector -- a revolution ---like -- moving -- exchanging -- having -- structure -- an optical path -- eing parallel -- a revolving shaft -- a core -- ****** -- rotating -- a rotor plate -- this -- a rotor plate -- a top -- the same -- a periphery -- a top -- arranging -- having had -- plurality -- a reflector -- having -- structure -- it is -- the above -- (-- hree --) -- a publication -- solid state laser -- equipment .

0010] (5) Solid-state-laser equipment the above (1) the reflector on an optical path in the above-mentioned optical-esonator equipment and other reflectors of whose are the structures where one reflector moves at a time onto an optical ath, and it is exchanged when two or more reflectors are arranged on the same straight line and the structure where it is xchanged free moves linearly, or given in (2).

0011] (6) the above (1) whose light by which laser oscillation is carried out is the light of red and the wavelength of a green and blue field thru/or (5) -- solid-state-laser equipment given in either.

0012] (7) the above (1) whose wavelength of the light from the excitation light source the rare earth content chloride of a laser activity medium is Er content chloride crystal or Er content chloride glass, and is one or more kinds of wavelength chosen from 790nm - 840nm, 965nm - 985nm, or 1500nm - 1550nm thru/or (6) -- solid-state-laser equipment given in either.

0013] (8) Er content chloride crystal is ErBa2 Cl7. Solid-state-laser equipment of the above-mentioned (7) publication whose wavelength of the light from the excitation light source it is a crystal and is 965nm - 985nm.

[0014] (9) the above (1) characterized by a reflector having a reflection factor adjusted so that output reinforcement of the laser beam in each peak wave Nagamitsu can be made into homogeneity thru/or (8) -- solid-state-laser equipment given in either.

[0015]

[Function] With the multicolor solid-state-laser equipment of this invention, wavelength upper part conversion of the light from the excitation light source is carried out, and the rare earth content chloride which may be emitted as two or more kinds peak wave Nagamitsu is used as a laser activity medium. In the narrow wavelength region centering on specific wavelength, optical reinforcement is the light which shows a peak, and peak wave Nagamitsu counts the peak part with one very. Among above and two or more kinds which wavelength upper part conversion was carried out and were emitted peak wave Nagamitsu [from] 1 to 1 set of reflectors to which laser oscillation only of one peak wave Nagamitsu can be carried out selectively Only the number of groups equivalent to the number of peak wave Nagamitsu which should be chosen is prepared, and the optical-resonator equipment of a configuration of that it is made to move out of two or more sets of these reflectors onto the optical path which makes free laser oscillation of the exchange only of a lot to other groups, and oscillation wavelength can be chosen easily is used. However, the reflector of each class may share one side of one pair of reflectors between two or more sets as a common reflector, and may constitute two or more groups by two or more exchange only of the reflector of another side being carried out. Moreover, only the number of groups equivalent to the number of peak wave Nagamitsu who shall exchange the reflector whole [one pair of] for every peak wave Nagamitsu, and should choose the group of a reflector as reverse may be prepared.

[0016] By considering as the above-mentioned configuration, only peak wave Nagamitsu who should choose among two or more peak wave Nagamitsu emitted from the excited laser activity medium can be easily chosen using optical-resonator equipment, can do laser oscillation, and can be outputted. Therefore, though it is solid-state-laser equipment of a small and easy configuration of having shared the common excitation light source and one laser activity medium, it becomes equipment which switches the laser beam of two or more wavelength easily, and can output it.

[0017] Furthermore, usually optical reinforcement is different for every wavelength, and optical reinforcement is

different [as for two or more peak wave Nagamitsu emitted from a laser activity medium] also for a laser output for every wavelength with this. What is necessary is just to adjust the reflection factor of each reflector according to the luminescence reinforcement from each peak wave Nagamitsu's laser activity medium to carry out the laser output of the light of each wavelength by the same reinforcement mutually. That is, when optical reinforcement makes the reflection factor of the wavelength low to strong wavelength, in each wavelength, multicolor laser equipment with uniform output light reinforcement is obtained. however, abbreviation whose homogeneity here has an allowable error on a real activity -- a uniform condition is included.

[0018] Moreover, if what emits peak wave Nagamitsu of red and a green and blue wavelength region is used as a laser activity medium, it will become possible to consider as full color laser equipment. in this case -- if the reflection factor of a reflector is adjusted according to red and the reinforcement of green and blue peak wave Nagamitsu -- the output reinforcement of each color -- mutual -- abbreviation -- since it can do with uniform full color laser equipment, it is more desirable. Of course, what is necessary is just to use a reflector with the same reflection factor for the application as which the homogeneity of the output reinforcement of each color is not required.

[0019]

[Embodiment of the Invention] Hereafter, the embodiment of this invention is explained more to a detail. Drawing 1 is drawing showing typically an example of the multicolor solid-state-laser equipment by this invention. As for the excitation light source and 2, in this drawing, 1 is [a laser activity medium and 6] optical-resonator equipment. The laser activity medium 2 is the rare earth content chloride which carries out wavelength upper part conversion of the ligh L1 from the excitation light source 1, and may be emitted as two or more kinds peak wave Nagamitsu.

[0020] Optical-resonator equipment 6 is equipment which sandwiches the laser activity medium 2 and has two or more sets of this like drawing 1 by using as an optical resonator the reflector of the couple lot arranged on the optical path in which laser oscillation is possible. In the example of this drawing, the reflector of one side is the structure where it is fixed as a reflector common to each class, and the near reflector of another side is arranged free [exchange] on the optical path in which laser oscillation is possible, among the reflectors of each class, and it is the configuration that the group of a reflector serves as plurality by this.

[0021] In the example of this drawing, a reflector 3 is a fixed reflector common to each class. Moreover, in order to explain the near reflector exchanged briefly, the configuration of 2 person alternative is shown. Reflector 4a of the selected one is arranged on an optical path, and constitutes the reflector of a couple lot with the reflector 3. Moreover, among two or more peak wave Nagamitsu to whom wavelength upper part conversion was carried out by the laser activity medium, and the near reflector exchanged was emitted, from from, only one peak wave Nagamitsu is reflected selectively and only the number of peak wave Nagamitsu which should be chosen is formed. The fixed reflector 3 may reflect altogether peak wave Nagamitsu whom the near reflectors 4a and 4b exchanged reflect by one set. Moreover, in the example of this drawing, excitation light penetrates a reflector 3 and it carries out incidence to a laser activity medium. In addition, the graphic display of other accessories is omitted.

[0022] In the multicolor solid-state-laser equipment of the above-mentioned configuration, when the excitation light L1 emitted from the excitation light source 1 carries out incidence to the laser activity medium 2, the laser activity medium 2 is excited and emits the light of various wavelength. It is targeted at peak wave Nagamitsu by whom wavelength upper part conversion was done also in it especially in this invention. Only peak wave Nagamitsu L2 whom the reflector arranged on an optical path in optical-resonator equipment among peak wave Nagamitsu by whom wavelength upper part conversion was done reflected selectively does laser oscillation, and is outputted outside as a laser beam L3. Therefore, only in the reflector of one side of optical-resonator equipment, peak wave Nagamitsu corresponding to then is chosen only by exchanging for the reflector of other couples, and the output of the laser beam of different wavelengtl is obtained [reflector / every / of other reflectors or a couple].

[0023] The rare earth content chloride used for a laser activity medium carries out wavelength upper part conversion of the excitation light, and the matter which emits two or more kinds of light of shorter wavelength is used. As shown in JP,7-97572,A especially, Er content chloride crystal is desirable, and it is especially ErBa2 Cl7. When excitation light with a wavelength of 965nm - 985nm is irradiated, a crystal emits peak wave Nagamitsu in red and a green and blue wavelength region by wavelength upper part conversion, and is the suitable matter for construction of the above-mentioned full color laser equipment.

[0024] It should be just possible to carry out incidence of the light of predetermined wavelength required as an excitation light to a laser activity medium by power required for laser oscillation as the excitation light source. Nd specifically excited by near-infrared semiconductor laser or them: Although an YAG laser etc. is illustrated, for miniaturization, semiconductor laser is the most desirable also in these. Moreover, continuous oscillation or a pulse oscillation is sufficient as the excitation light source.

0025] Among two or more peak wave Nagamitsu emitted from the laser activity medium, each reflector which optical-esonator equipment has reflects only one selectively, and should just carry out [from] laser oscillation. Only the ıumber of required wavelength prepares the group of such a reflector, and it considers as the structure which can be ırranged free [exchange] on an optical path. The mode which constitutes a required group from exchange of a reflector ixing one side among the reflectors of a couple like the example of drawing 1 , and exchanging only another side, the node which constitutes all the groups of a required reflector and always exchanges couple lots are mentioned.
0026] The structure of fixing one reflector and exchanging the reflector of another side also in these modes is compact, ınd desirable. Let the reflector of the side fixed at this time be the common reflector which may reflect all the light of he wavelength chosen with the reflector of another side exchanged.
0027] Even if it is which [these] mode, the following are mentioned as desirable structure for exchanging the reflector ›f one side for other reflectors.
a) Structure where one moves at a time onto an optical path, and it is exchanged when two or more reflectors which ;hould be exchanged move in revolution centering on the revolving shaft placed out of the optical path.
b) Structure where one moves at a time onto an optical path, and it is exchanged when two or more reflectors which ;hould be exchanged are arranged on the same straight line and these move linearly. When always exchanged as a ;ouple lot, exchange of a reflector establishes the same exchange structure as both sides on both sides of a laser activity nedium, and should just perform exchange actuation to both-sides coincidence.
0028] Exchange of the reflector by the rotor plate which is out of an optical path as shown in drawing 1 as an example ›f the structure of the above (a), and rotates the revolving shaft Y parallel to this optical path as a core is mentioned. Th« eflectors 4a and 4b which should be exchanged are arranged on the periphery corresponding to the predetermined ›eriphery, i.e., optical path of laser oscillation, top of the rotor plate 5 which rotates the shaft Y parallel to an optical ›ath as a core, and when a rotor plate 5 rotates Shaft Y as a core, these reflectors move onto an optical path and they are ;xchanged.
0029] As an example of the structure of the above (b), the reflector which should be exchanged for the plate of ›redetermined die length is arranged linearly, and when this plate moves linearly to the optical axis of laser oscillation ike actuation of the film to the optical axis of a projector, the structure where it is exchanged in a reflector is mentioned

0030] As a reflector which may reflect only one peak wave Nagamitsu, the high reflective film formed, for example by he dielectric multilayer is mentioned. Let the reflector fixed to one side as a common reflector on the other hand be vhat has possible reflecting all peak wave Nagamitsu reflected by the reflector exchanged, and carrying out laser ›scillation for all. As such a reflector, the band pass filter which penetrates only excitation light, for example is nentioned.
0031] It is good also as an excitation light incidence side and a laser light outgoing radiation side to a laser activity nedium in which [of the reflector which fixes one reflector, and is these-fixed when considering as the structure of ;xchanging the reflector of another side, and the reflectors exchanged]. Moreover, even if the mode of the reflector ixed is a mode (mode illustrated to drawing 1) which sets and prepares spacing to a laser activity medium, it may be a node used as the mirror directly formed in the laser activity medium end face by coating etc.
0032] The reflection factor of the reflector exchanged is adjusted according to the reinforcement of peak wave Nagamitsu of a laser activity medium to attain equalization of the output reinforcement for every peak wave Nagamitsu ıs stated above. That is, optical reinforcement lowers the reflection factor of the reflector which chooses the wavelengtl o strong peak wave Nagamitsu, it is made to turn into other peak wave Nagamitsu with optical weak reinforcement, an« ›ptical reinforcement of abbreviation identitas, and equalization of the laser beam output in each color is attained.
0033]
Example] The experiment which checks whether selection of laser oscillation wavelength is actually possible was ;onducted using the configuration of multicolor solid-state-laser equipment as shown by the above-mentioned ;xplanation and drawing 1 . However, peak wave Nagamitsu's wavelength which should be chosen was made into three ;inds in this example. In connection with this, the number of the reflectors on the rotor plate of optical-resonator ;quipment was also set to 3, and has been arranged three places at intervals of 120 degrees on the same periphery of a ·evolution plate surface. It is ErBa2 Cl7 as a laser activity medium. When the main wavelength of 982nm and CW ;emiconductor laser of maximum output 1W were irradiated as an excitation light to this using the single crystal, the ight emitted from the laser activity medium was what has red as shown in drawing 2 , and the spectrum which has a ›eak in a green and blue wavelength region. Three kinds of wavelength, 460nm, 550nm, and 640nm, emitted by vavelength upper part conversion was chosen from the peaks of these large number, three kinds of reflectors made to ·eflect only each peak wave Nagamitsu were prepared, and it used as a reflector freely exchangeable for one side of a

laser activity medium. Moreover, as a common reflector with which another side was fixed, what high reflective coating is given in 400-700nm was prepared, and it considered as the structure in which laser oscillation is possible on any wavelength.

[0034] One side of the two optical-resonator mirrors is made to penetrate from the above-mentioned semiconductor laser which is the excitation light source. When excitation light is irradiated at a laser activity medium, and the reflector made to reflect only 460nm has been arranged on an optical path, a laser beam with a wavelength of 460nm oscillates. Similarly, the 550nm laser beam was able to oscillate in the 550nm reflector, the 640nm laser beam oscillated in the 540nm reflector, and it has checked that the three above-mentioned kinds of laser beams were obtained only by exchanging these three reflectors.

[0035] Moreover, compared with peak wave Nagamitsu of the wavelength of others [Nagamitsu / 460nm peak wave], optical reinforcement is weak also in peak wave Nagamitsu who wavelength upper part conversion was done and was emitted by the laser activity medium so that clearly also from the graph of drawing 2 . In this example, the reflection factor of the reflector made to reflect peak (550nm and 640nm) wave Nagamitsu was adjusted low. By this, it has checked that it was possible to arrange the output of a laser beam by which outgoing radiation is carried out on a par with a 460nm laser beam, without changing the excitation intensity of light for every peak wave Nagamitsu.

[0036] Although [the optical-resonator equipment in this example] reflector of one of the two was fixed and it is common, even if it was the mode which is prepared and are exchanged the whole reflector of a couple in the case of exchange of an optical resonator the couple every, the same result was obtained in the reflector to all the wavelength that should be chosen.

[0037]

[Effect of the Invention] As explained above, the multicolor solid-state-laser equipment of this invention can output the laser beam of two or more kinds of wavelength with one equipment by choosing two or more kinds peak wave Nagamitsu emitted by wavelength upper part conversion from one laser activity medium by easy exchange of the reflector using optical-resonator equipment. Therefore, it is not necessary to prepare the laser equipment which emits the laser beam of each wavelength according to an individual. Moreover, since it is what shares the same excitation light source and one laser activity medium, equipment will not become large-scale. Therefore, the structure of a system when it is necessary to use a multicolor laser beam properly becomes easy. Moreover, even if peak wave Nagamitsu emitted from a laser activity medium has dispersion in optical reinforcement, it becomes possible by optimizing the reflection factor of a reflector respectively to make the laser beam of equal strength output of every wavelength with a fixed excitation light.

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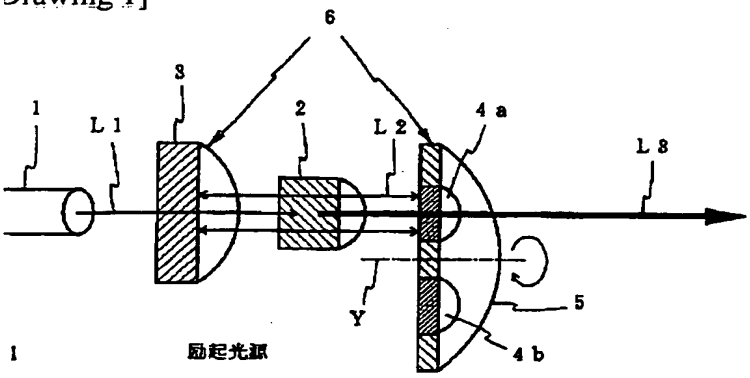
NOTICES *

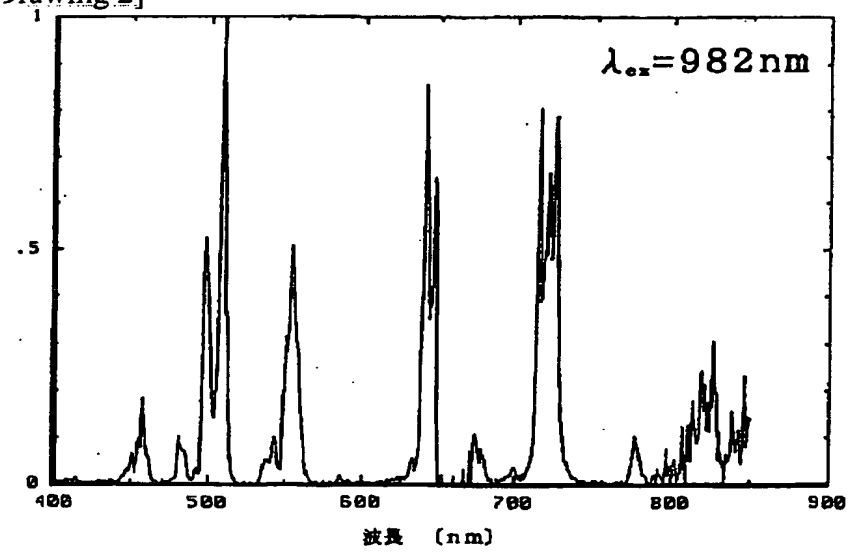
)RAWINGS

Drawing 1]



1	励起光源
2	レーザ活性媒体
3、4 a、4 b	反射器
6	光共振器装置

Drawing 2]



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